



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,927	01/09/2006	Yeow Teng Toh	DE 030243	3781

65913 7590 07/07/2008

NXP, B.V.  
NXP INTELLECTUAL PROPERTY DEPARTMENT  
M/S41-SJ  
1109 MCKAY DRIVE  
SAN JOSE, CA 95131

EXAMINER
----------

GUZMAN, APRIL S

ART UNIT	PAPER NUMBER
----------	--------------

2618

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

07/07/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/563,927	<b>Applicant(s)</b> TOH ET AL.	
	<b>Examiner</b> APRIL S. GUZMAN	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-11, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/09/2006</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 04/29/2008 have been fully considered but they are not persuasive.

Consider claims 1-3, 9, 13, and 14, Applicant argues that Shore and Lin do not teach an inductor which is variable during operating of a receiver.

The limitation "inductor being variable **during operation**" added into claim 1 and similarly in claims 13 and 14, filed on 08/17/2007, has no clear and descriptive support in the specification of the present application. The only support found by the Examiner is the range found on page 6 lines 3-6, page 6 lines 26-27, and page 9 lines 6-7 wherein the inductor 32, 48, 101 for example "has a value between 1  $\mu$ H and 10  $\mu$ H".

Therefore, the Examiner respectfully disagrees with Applicant's argument because Shore teaches an inductor L22 that tunes super-regenerative circuit 26 for operation at 390 MHz. The inductor L22 can have a value within a range of about 52 nH to about 63 nH (read as inductor being variable) (column 6 lines 13-29).

Furthermore, Shore teaches "values of the inductor L20 are selected to lower the noise figure of receiver 12 and to tune the frequency where receiver is sensitive to be close to the null in its radiated spectrum" and "the tuned or operation frequency of circuit 26 will be set by the inductor L22" (column 6 lines 13-29). Prior to the inductor L20 being selected to a value within the range to lower the noise figure of receiver 12, it is understood there was some prior noise that needed to be lowered, therefore, it has been read as being varied during operation.

Consequently, in view of the above teachings of Shore and having addressed Applicant's arguments, the previous rejection is maintained and made Final by the Examiner.

Claims 4-6 depend from and incorporate all of the limitations of independent claim 1, therefore, the previous rejection is also maintained and made Final by the Examiner in view of the sustained rejection of claim 1 for the reasons explained above.

Claims 10 and 11 depend from and incorporate all the limitations of independent claim 1, therefore, the previous rejection is also maintained and made Final by the Examiner in view of the sustained rejection of claim 1 for the reasons explained above.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 1, 13, & 14** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitation "inductor being variable **during operation**" added into claim 1 and similarly in claims 13 and 14, that was filed on 08/17/2007, has no clear and descriptive support in the specification of the present application. The only support found by the Examiner is the

Art Unit: 2618

range found on page 6 lines 3-6, page 6 lines 26-27, and page 9 lines 6-7 wherein the inductor 32, 48, 101 for example “has a value between 1  $\mu$ H and 10  $\mu$ H”.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim(s) 1-3, 9 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shore (U.S. Patent No. 5,742,902) and in view of Lin (U.S. Patent No. 5,983,084).

Re claim(s) 1 and 14, Shore discloses door operator circuit apparatus (see fig.1 and abstract) [i.e. which has a remote control system] comprising: a receiver antenna (20 of fig.1) coupled to the receiver amplifying circuit (24 of fig.1 and 2) and to a first inductor (L40 of fig.7);, a receiver super-regenerative circuit (26 of fig.1) with quench oscillator i.e. oscillating-filtering circuit (26,28,30 of fig.1, 5) coupled to the receiver amplifying circuit (24) and comprising a second inductor (L22 of fig.5); and a receiver amplifying-shaping circuit (32 of fig.1,8) which shapes the level shifted signal to provide the data signal as output and coupled to the receiver oscillating-filtering circuit via a receiver filtering circuit (30 of fig.1) with a inductor (L40) having a variable values for aligning the receiver (see fig. 1-8,col.8 lines 20-25).

Shore further teaches inductor (L22 of fig5) tuned super regenerative circuit (i.e. receiver circuits) for operation and inductor have a value within a range of 52 nH to about 62 nH (see fig. 1, 5 and col.6 lines 21-27) [since first L40 inductor has a variable value 68 nH to 86 nH (col.6 lines 45-48) and L22 inductor has a variable value 52 nH to 62 nH (col.6 lines 21-27 that can be tuned for adjusting (aligning) the receiver].

But failed to disclose a transmitter comprising: transmitter oscillating amplifying circuit further comprises surface-acoustic-wave-resonator; and transmitter antenna coupled to the transmitter oscillating amplifying circuit. However, Lin discloses a remote keyless entry system (remote control system) comprising a transmitter (T of fig.1-2 and A, B of fig.3); and transmitter (T) comprises - LC oscillator such as Colpitts oscillator CO includes an inductor (L1) which is serving as an antenna for transmitting the radio frequency signal and amplifier (10 of fig.2)

Art Unit: 2618

interposed between antenna and Colpitts. oscillator CO for amplifying the signal [i.e. a transmitter oscillating-amplifying circuit] (see fig.1-2, col.2 lines 65-67,col.3 lines1-3,col.4 lines 33-45); and transmitter oscillating amplifying circuits comprising a surface-acoustic-wave-resonator (see fig. 1 "SAWR").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the remote control system comprises a receiver oscillating amplifying circuits, oscillating filter circuits and shaping circuits with inductor which is coupled to the receiver (as taught by Shore) by incorporating a transmitter section having a transmitter antenna, oscillating amplifying circuit and surface acoustic wave resonant (as taught by Lin) to improve remote control system by reduction of spurious signal providing of SAW resonator in the transmitter circuits and cost effective as well in the remote control system.

Re claim 2, as discussed above with respect to claim 1, Shore further discloses the receiver super-regenerative circuit with filter (i.e. oscillating-filtering circuit) (26,30 of fig.1) comprises a first transistor (Q20 of fig.5) of which first transistor a first main electrode (emitter) is coupled to the receiver filtering circuit (30 of fig.1) and to a first capacitor (C22 of fig.5) and to a side of a second capacitor (C24 of fig.5) and of which first transistor (Q20) a second main electrode (collector) is coupled to the receiver amplifying circuit (24 of fig. 1) and to an other side of the second capacitor (C24) and to the second inductor (L22 of fig.5).

Re claim 3, as discussed above with respect to claim 2, Shore furthermore discloses the first inductor (L40 of fig. 7) is coupled to a third capacitor (C42 of fig.7) in " parallel (see fig.7) and the second inductor (L22 of fig.5) is coupled to a fourth capacitor (C20 of fig.5) in parallel (see fig. 5).

Art Unit: 2618

Re claim 9, as discussed above with respect to claim 1, Shore discloses that a remote control system is ceramic-resonatorless (see fig.1-8)[i.e, remote control system uses surface-acoustic-wave-resonator as teaches by Lin] and the receiver (12 of fig.1) being surface-acoustic-wave-resonatorless (see fig.1-8) [wherein receiver circuits does not use surface-acoustic-wave-resonator as disclose by Shore].

Re claim 13, It is essentially a part (receiver part) of the claim 1, wherein Shore and Lin teaches all the limitations as recited in claim 1 and is rejected given the same reasoning as above.

Claim(s) 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shore as modified by Lin as applied to claim 1-3 above and further in view of Hunter (U.S. Patent No. 2,824,170).

Re claim 4, Shore discloses all the limitations in combination with Lin with respect to claim 1-3 except receiver ripple rejecting circuit comprising a second transistor of which second transistor a first main electrode is coupled to the second inductor via a fifth capacitor and of which second transistor a second main electrode is coupled to a second reference terminal and of which second transistor a control electrode is coupled to a sixth capacitor and to the second reference terminal via a second resistor .However, Hunter teaches television signal processing circuits wherein ripple eliminating circuits comprises NPN transistor (58 of fig.2) of which first main electrode(emitter) coupled to the capacitor i.e. fifth capacitor(48 of 'fig.2) and second main electrode (collector) is coupled to the reference terminal (57 of fig.2) and control electrode(base) is coupled to the capacitor i.e. sixth capacitor (36 of fig.2) and to the reference terminal i.e. second reference terminal (34 of fig.2).



Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made remote control system comprises receiver circuits and incorporating transmitter circuits taught by Lin to the system and further modified receiver circuits by including ripple eliminating circuits as taught by Hunter to reduce undesired ripple components as a signal between base and emitter, thus ripple balancing is achieved in the remote control system.

Re claim 5, as discussed above with respect to claim 4, Shore furthermore discloses the receiver amplifying circuit (24 of fig. 1) comprises a third (Q1 of fig.2) and a fourth (Q2 of fig.2) transistor with a first main electrode(emitter) of the third transistor (Q1) being coupled to the first reference terminal via a parallel circuit of a third resistor (R4 of fig.2) and a seventh capacitor (C5 of fig.2) with a second main electrode (collector) of the third transistor (Q1) being coupled to a first main electrode(emitter) of the fourth transistor (Q2) with a second main electrode (collector) of the fourth transistor (Q2) being coupled to the first main electrode of the second transistor [which is taught by Hunter as described in the claim rejection's 4] via a fourth resistor (R9 of fig.2) and to the second main electrode of the first transistor (L22 of fig.5), and with a control electrode of the third transistor (Q2) being coupled to the receiver antenna (20 of fig.1) and to the first inductor (L40 of fig.7).

Re claim 6, as discussed above with respect to claim 5, Shore furthermore discloses the receiver filtering circuit (26 and 30 of fig.1) comprises a third inductor (L20 of fig.5) coupled to the first main electrode of the first transistor (Q20 of fig.5) and further coupled to a parallel circuit of fifth resistor (R50 of fig.8) and an eighth capacitor (C50 of fig.8) and to a ninth

Art Unit: 2618

capacitor (C52 of fig.8) via a sixth resistor (R60 of fig.8) which parallel circuit and which ninth capacitor (C52) are further coupled to the first reference terminal (see fig.5,7and 8).

Claim(s) 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over shore as modified by Lin as applied to claim 1 above and further in view of Melbourne (U.S. Patent No. 6,774,787 B1).

Re claim 10 and 11, Shore discloses all the limitations in combination with Lin with respect to claim 1 and shore further discloses receiver is coupled to the antenna (20 of fig.1) and decode (34 of fig.1) received amplitude signal modulated (wherein CW signal that is on -and -off modulated to superimpose to a data signal to produce RF command signal i.e. to perform 'amplitude shift keying demodulation); and Lin further teaches colpitts oscillator that has an inductor (L1 of fig.2) serving an antenna for transmitting the radio frequency signal and the carrier wave(CW) provided by the oscillator is modulated by the digital code provided by the controller to provide a chain binary 1 and 0 pulses ( on and off i.e. amplitude shifting keys modulation).

But failed to disclose explicitly transmitter antenna is a printed antenna and uses for short range purposes. However, Melbourne teaches electronics Locator system i.e. TV remote control system (same field of endeavor) comprises transmitter(90 of fig.4) coupled to the printed antenna (94 of fig.4) and receiver is coupled to the printed antenna (96 of fig.4); and printed antenna can be used for short range purposes (see fig. 1,4,col.1 lines13-16,col.3 lines50-53,col.7 lines 5-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made remote control system comprises receiver circuits and incorporating transmitter circuits taught by Lin to the system and further modified transmitter and receiver

Art Unit: 2618

antenna by including printed antenna for transmitting/receiving short range radio frequency signal as taught by Melbourne to provide better performance of the antenna system to provide loop design printed antenna.

***Allowable Subject Matter***

Claim(s) 7-8 are objected to as being dependent upon a rejected base claim, but would be allowable if re-written in independent form including all Of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for the indication of allowable subject matter:

Re claim 7, the prior art does not teach or fairly suggest in combination with the other claimed limitations including:

"receiver amplifying-shaping circuit (27) comprises a fifth (114), sixth (117), seventh (118) and eighth (123) transistor, with a control electrode of the fifth transistor (114) being coupled to the ninth capacitor (105) and with a second main electrode of the fifth transistor (114) being coupled to the second reference terminal (91) via a seventh resistor (113) and to a control electrode of the sixth transistor (117) via an eighth resistor (115) and to a control electrode of the seventh transistor (118) via a ninth resistor (120), and with a second main electrode of the seventh transistor (118) being coupled to a control electrode of the eighth transistor (123) and to the first reference terminal via a tenth resistor (119), and with a second main electrode of the eighth transistor (123) constituting a data output (124) of the receiver (2) and being coupled to the second reference terminal (91) via an eleventh resistor (122)."

.Re claim 8, the prior art does not teach or fairly suggest in combination with the other claimed limitations including:

"wherein the transmitter oscillating-amplifying circuit (12) comprises a ninth transistor (46) of which ninth transistor (46) a control electrode is coupled to the surface- acoustic-wave-resonator (42) via a tenth capacitor (41) and to a transmitter input circuit (11) comprising a fourth inductor (32) and of which ninth transistor (46) a first main electrode is coupled to the first reference terminal via a serial circuit of a twelfth resistor (47) and a fifth inductor (48) and of which ninth transistor (46) a second main electrode is coupled to the transmitter antenna (13)"

Though the closest prior art is Shore (U.S. Patent No. 5,742,902) and Lin (U.S. Patent No. 5,983,084). Shore discloses a receiver amplifying circuit (32 of fig.1) that has only one transistor (Q70 of fig.8) instead of four transistor and Lin teaches transmitter circuits but failed to discloses " ninth transistor has a first main electrode coupled to the first reference terminal via a serial circuit of a twelfth resistor and a fifth inductor".

### ***Conclusion***

Applicant's amendment, filed on 08/17/2007, necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2618

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: see PTO-892 Notice of References Cited.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April S. Guzman whose telephone number is 571-270-1101. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April S. Guzman  
A.S.G/asg

/April S. Guzman/  
Examiner, Art Unit 2618

/Matthew D. Anderson/  
Supervisory Patent Examiner, Art Unit 2618